CHARGE NUMBER: 1005
PROJECT TITLE: Improved Semiworks Operation
PROJECT LEADER: R. T. Gaudlitz
PERIOD COVERED: February, 1983
DATE OF REPORT: March 4, 1983

Title: Haumi Steam Tunnel (T. Skidmore)

Objective: Develop a process which uses the superwetting of cut filler and the co-current Adt dryer to achieve the maximum CV exiting the dryer.

Status: The steam tunnel has been installed ahead of the Semiworks Adt dryer along with a conveyor system which allows filler to enter the dryer via the tunnel or by by-passing the tunnel. Some additional work is necessary in duct modifications, instrumentation, and steam and water connections.

Plans: The tentative schedule is:

March	:	Complete Installation
April - May	:	Preliminary Tests
May - July	:	Final Evaluation

Title: Variable Angle Doffers - R&D Semiworks (T. Skidmore)

Objective: Minimize tobacco breakage during silo discharge by optimizing silo doffer angle and design.

Status: Per a joint recommendation by R&D and Manufacturing Engineering, pin doffers will be installed on cut filler silo No. 12 in the MC during the March 4-6 weekend and evaluated by Manufacturing Engineering on an MFKS blend.

Pin doffers were used to discharge an MUL blend (which has a higher percentage of ET than Marlboro) from the Semiworks final blend silo. This material discharged without problems. A 1.9% loss of longs, across the silo, did occur. This is a greater loss than the $< 1.0\%$ experienced with MFKS.

A work order has been issued to modify the silo doffer for evaluation with bright strip.

Plans: A new doffer design and the effect of doffer rpm on strip damage will be examined.

2022203085

Source: https://www.industrydocuments.ucsf.edu/docs/lfkm0000

Title: Adt Dryer Water Spray (R. Wagoner)

Objective: Evaluate a water spray system in the Adt dryer as a means of achieving CV improvement.

Status: Two sets of test runs were made in which Marlboro filler cut at 20.4 and 21.9% OV values was dried in the Semiworks Adt dryer that is equipped with three water spray nozzles located in the feed end. During the first set (20.4% filler) additional water was sprayed on the filler at rates that would translate into moisture gains of 1.1, 2.8, and 4.5%. Water rates producing theoretical gains of 1.5 and 3.2% were sprayed in the second set (21.9% filler). Control tests with no water spray were also run for each set. Cylinder volume results showed no CCV gains for either control run, while the test runs produced gains of 1.5 - 1.9 cc/10g. Analysis of the sieve data showed an approximate 2% loss in longs + mediums across the dryer for the control and test runs.

Plans:
1) Incorporate any further testing into the Hauni steam tunnel program.
2) Assist Manufacturing should they decide to test a water spray system as part of their CV enhancement program.

Title: Semiworks Witte Cooler and Separator Unit (R. Wagoner)

Objective: To evaluate the Witte fluidized bed equipment, located in the Semiworks, as a separator.

Status: In a co-operative effort with Process Engineering, modifications to their smaller Witte unit are being made that will permit the hood and chimney ratios to be varied. Also, during tests the internal bags will be removed to closer simulate the larger separator. This decision to modify the smaller unit was made to minimize the cost and time required by the overall evaluation program.

Plans:
1) Run joint tests with Engineering on the modified unit to determine the optimum design specifications for the larger Witte unit.
2) Evaluate bags constructed from mesh sizing cloth as a possible dust removal system for a Witte unit having an internal baghouse.

2022203086

Source: https://www.industrydocuments.ucsf.edu/docs/lfkm0000

Title: TOP and Dickinson Conditioning Units (R. Wagoner)

Objective: Test the performance of the TOP and Dickinson conditioning systems in comparison with the PM vacuum conditioning system.

Status: A demonstration run was made for representatives of Rothmans conditioning Canadian bright cases in the TOP unit. Following this, and acting upon their recommendation to do partial conditioning in the ordering cylinder, a comparison run among the TOP, Dickinson and vacuum conditioner was made with Canadian bright cases. Two different conditions were tested on the TOP system: 1) with desuperheater water addition and a "cold" ordering cylinder, 2) without desuperheater water and a "hot" ordering cylinder.

Plans: Evaluate the moisture and strip sieve samples collected during the test. Also, cut a composite sample of the Canadian bright to examine the effects on filling power.

Title: Semiworks Instrumentation & Computers (R. Shimaitis)

Objective: Implement supervisory control, direct control and reporting of the primary process.

Status: Power: The firmware expansion module board was replaced and the computer is still failing. This indicates that the original FEM board hardware is functioning properly, however, the Fisher supplied microcode is still questionable. The Cabarrus Primary computer is experiencing similar computer failures.

Software: The moisture and weighbelt calibration software user interface needs to be cleaned up. It is awkward and the 11 second response time is unacceptable. Rework is in progress. The new graphics plotter has been added to the system. Software has been completed to easily plot overhead transparencies. The Hauni Steam Tunnel has been configured into the system, and added to the data acquisition software.

Hardware: The Hauni Steam Tunnel has been installed. Controller and sensor wiring is in progress.

Plans:
1) Installation of the Motor-Generator Set and the Power Distribution System is to begin on March 14.
2) Complete control algorithm software for Hauni Steam Tunnel.
3) Cleanup calibration software.

Robert T. Gandhi

2022203087

Source: https://www.industrydocuments.ucsf.edu/docs/lfkm0000